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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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09/023,259 02/13/98 RITCHIE

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EXAMINER

THOMAS, J

ART UNIT

PAPER NUMBER

2747

DATE MAILED:

09/17/99

Please find below and/or attached an Office communication concerning this application or proceeding.

Commissioner of Patents and Trademarks

Office Action Summary

Application No.
09/023,259

Applicant(s)
RITCHIE, et al.

Examiner
JOSEPH THOMAS

Group Art Unit
2747



☒ Responsive to communication(s) filed on 2/13/99, 5/18/98, 1/22/99, and 3/22/99.

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 (THREE) month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

Disposition of Claims

☒ Claim(s) 1-20 ~~are~~ are pending in the application.

Of the above, claim(s) _____ is/are withdrawn from consideration.

☐ Claim(s) _____ is/are allowed.

☒ Claim(s) 1-20 ~~are~~ are rejected.

☐ Claim(s) _____ is/are objected to.

☐ Claims _____ are subject to restriction or election requirement.

Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on _____ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on _____ is ☐ approved ☐ disapproved.

☐ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some* ☐ None of the CERTIFIED copies of the priority documents have been
☐ received.

☐ received in Application No. (Series Code/Serial Number) _____.

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

*Certified copies not received: _____

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 2, 8, & 12

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948 (*substitute*)

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

DETAILED ACTION

Claim Rejections - 35 USC § 102

1. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(e) the invention was described in a patent granted on an application for patent by another filed in the United States before the invention thereof by the applicant for patent, or on an international application by another who has fulfilled the requirements of paragraphs (1), (2), and (4) of section 371(c) of this title before the invention thereof by the applicant for patent.

2. Claims 1, 11, and 13 are rejected under 35 U.S.C. 102(e) as being anticipated by Lakritz (5,586,198).

(A) As per claim 1, Lakritz discloses a method and apparatus for identifying characters in an ideographic alphabet (Lakritz; abstract), comprising:

a mouse (25) (reads on "means for input") for dragging and selecting from the group consisting of a stroke, a radical (reads on "component"), and a character that match a specified criteria (Lakritz; col. 5, line 61 to col. 6, line 18 and col. 6, line 66 to col. 7, line 9) as well as a selection window (14) having a scrollable display of ideographic strokes, radicals, and/or characters for the user to select (Lakritz; col. 7, line 66 to

col. 8, line 15);

a database (30) that encodes and stores a graphical representation of each character in a character set of an ideographic language, such as Chinese (Lakritz; col. 4, lines 29-32; col. 7, lines 14-34; col. 10, lines 1-30; col. 11, lines 51-53; and col. 12, lines 46-48); and

a backend processor (22) that enables the user to manipulate characters from the encoding database (30) on a canvas (12) according to sectors and strokes and to store them for easy access and retrieval from a character set shown on the display screen (24) or registered on the palette (10) (Lakritz; col. 6, line 51 to col. 10, line 30; and figs. 4-9); and

a display screen (24) having a palette (10) and a canvas (12) on which radicals and strokes are positioned and edited (Lakritz; col. 5, lines 34 to col. 60 and col. 6, lines 19-50 and fig. 4), wherein actions on the canvas queries the database and brings up a list of matching characters on the screen which can be further limited by specifying qualifying parameters (Lakritz; col. 5, line 62 to col. 6, line 4 and col. 7, line 35 to col. 8, line 38).

(B) As per claim 11, Lakritz teaches:

inputting an initial radical on the canvas, initiating a query of the database, and bringing up a list of matching

characters or radicals on screen for the user's review (Lakritz; col. 5, line 54 to col. 6, line 4);

selecting a character or radical or a further stroke until the entire character is formed (Lakritz; col. 6, lines 5-18 & 33-51);

and repeating the above steps until the specific or complete form of the desired character is constructed (Lakritz; col. 6, lines 5-18 and col. 10, lines 1-30), wherein an analysis engine analyzes radicals according to attribute filters and outputs a set of ideographic characters that match the given constraints and even recognizes partial characters (reads on "non-word associated" characters) from a minimum combination of character radicals (Lakritz; col. 8, lines 38-50).

(C) Method claim 13 repeats the apparatus elements recited in claims 1. As the features of claim has been shown to be taught by Lakritz, it is readily apparent that the apparatus disclosed by Lakritz performs the recited underlying functions. As such, these limitations are rejected for the same reasons given above for apparatus claim 1, and incorporated herein.

Claim Rejections - 35 USC § 103

3. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office

action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

4. Claims 2-4, 12, and 14 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakritz (5,586,198), as applied to claims 1 and 11 above, and further in view of Freeman (5,649,223).

(A) As per claims 2-4 and 14, Lakritz fails to teach the use of a touch screen and/or a virtual keyboard. However, these input devices are well known in the text processing arts, as evidenced by Freeman. In particular, Freeman discloses the use of inputs systems such as a keyboard, a touch sensitive screen, and a virtual keyboard to enter in text in languages such as Chinese, Japanese, and other non-alphabetic languages (Freeman; col. 1, lines 23-31; col. 7, lines 15-40; col. 16, line 52 to col. 17, line 2; col. 19, lines 41-53; col. 22, line 54 to col. 23, line 59). As per the recitation of a more key and a wild card key, note Freeman's teachings with respect to a satellite keys and reference keys (Freeman; col. 15, line 24 to col. 16, line 4), and particularly as it applies to inputting text in languages such as Chinese, Japanese, and other non-alphabetic languages (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the input devices disclosed by Freeman within Lakritz's system with the motivation of enabling rapid and easy input of text and/or data for any application, for people without keyboard skills as well as for people with typing skills (Freeman; col. 3, lines 43-55 and col. 5, lines 49-55).

(B) As per claim 12, Lakritz fails to expressly disclose the automatic appending of a word separator upon selection of a character. However, this is well known in the art, as evidenced by Freeman. In particular, Freeman teaches that "selected words, with or without inflections, are outputted by input actions which may append 'Space' or other punctuation endings" (Freeman; abstract, lines 13-17 and col. 5, lines 6-18).

The motivation for combining the respective teachings of Lakritz and Freeman is as given above in the rejection of claims 2-4 and 14, and incorporated herein.

5. Claims 5-10 and 15-20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Lakritz (5,586,198), as applied to claims 1 and 11 above, and further in view of Kumai, et al. (5,634,134) and Freeman (5,649,223).

(A) As per claims 5-6, Lakritz's palette (10) of 82 radicals are arranged (i.e., classified) according to the number of strokes. The individual strokes are arranged in a matrix and placed in a separate cell. The number of strokes is utilized as a filter to specify parameters to constrain a search for ideographic characters (Lakritz; col. 6, line 66 to col. 7, line 13 and col. 7, lines 35-39). Lakritz further discloses assigning radical IDs and sector numbers for indicating the position information of an ideographic character (Lakritz; col. 9, lines 5-67). Lakritz fails to specifically teach the use of frequency of occurrence of a character as a first character. However, frequency of occurrence is a well-known parameter for determining the likelihood of an ideographic character, as evidenced by Kumai. Please see col. 10, line 6 to col. 17, line 15 of Kumai. In addition, Freeman discloses the inputting of consonant-vowel letter of sound combinations (reads on "orthographic components") as well as the number of strokes, radicals, and starting strokes of ideographic characters. Further, Freeman suggests the use of sets of likely next words as a follow-up to inputs for text entry, since the Chinese language has few inflections (Freeman; col. 16, line 52 to col. 17, line 2).

One having ordinary skill in the art at the time of the invention would have found it obvious to include the teachings disclosed by Kumai and Freeman within Lakritz's system with the

motivation of judging the likelihood values of user-input keys and carrying out processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26) and of guiding the user or the beginner to inputs for any letter/character/word in a language, thereby minimizing the number of inputs required (Freeman; col. 5, lines 56-58).

(B) As per claims 7-10, Lakritz clearly teaches that strokes are combined to form radicals, and that radicals in turn form characters and that radicals are arranged by number of strokes (Lakritz; col. 6, line 66 to col. 7, line 20). Lakritz further discloses an analysis engine that analyzes radicals according to attribute filters and outputs a set of ideographic characters that match the given constraints, wherein the analysis engine can recognize partial characters from a minimum combination of character radicals (Lakritz; col. 8, lines 38-50). As per the recitation of orthographic components, Freeman discloses the inputting of consonant-vowel letter of sound combinations (reads on "orthographic components") as well as the number of strokes, radicals, and starting strokes of ideographic characters.

As per the use of the "frequency of occurrence" and "cumulative frequencies", note the teachings of Kumai with respect to judging the likelihood values of user-input keys and/or the frequency of occurrence of characters and carrying out

processing based on the result of the judgment so that the result intended by the user is obtained (Kumai; col. 4, lines 4-26 and col. 10, line 6 to col. 17, line 15). In addition, Lakritz suggests adjusting focus, grade, and filters to further constrain the search for a desired character according to user preferences (Lakritz; col. 10, line 41 to col. 11, line 4 and col. 11, line 11, lines 36-43). Furthermore, Lakritz provides the user flexibility in self registering radicals, thereby enabling the operator to customize his use of characters (Lakritz; col. 7, lines 53-65).

The motivation for combining the respect teachings of Lakritz, Kumai, and Freeman, is as given above in the rejection of claims 5-6, and incorporated herein.

(C) Method claims 15-20 repeats the apparatus elements recited in claims 5-10, respectively. As the features of claims 5-10 have been shown to be taught by or obvious in view of Lakritz, Kumai, and Freeman, it is readily apparent that the apparatus disclosed by Lakritz, Kumai, and Freeman, performs the recited underlying functions. As such, these limitations are rejected for the same reasons given above for apparatus claims 5-10.

Conclusion

6. The prior art made of record and not relied upon is

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considered pertinent to Applicant's disclosure. The cited but not applied prior art of record teaches a method and device for phonetically encoding Chinese textual data for data processing entry (5,164,900); a method for conversion of phonetic Chinese to character Chinese (5,270,927); audio-video coding system for Chinese characters (5,331,557); character inputting method allowing input of a plurality of different types of character species, and information processing equipment adopting the same (5,535,119); a method and keyboard for inputting Chinese characters on the basis of two-stroke forms and two-stroke symbols (5,724,031); method for encoding Chinese and Japanese ideographic characters for computer entry, retrieval, and processing (5,790,055); and a keyboard for a system and method for processing Chinese language text (5,893,133).

7. Any response to this action should be mailed to:

Commissioner of Patents and Trademarks
Washington, D.C. 20231

or faxed to:

(703) 305-9051, (for formal communications
intended for entry)

Or:

(703) 305-5356 (for informal or draft
communications, please label "PROPOSED" or
"DRAFT")

Hand-delivered responses should be brought to Crystal

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Park II, 2021 Crystal Drive, Arlington. VA., Sixth
Floor (Receptionist).

8. Any inquiry concerning this communication or earlier communications from the examiner should be directed to Joseph Thomas, whose telephone number is (703) 305-9588. The examiner can normally be reached on Monday through Thursday from 8:30 AM to 5:00 PM. The examiner can also be reached on alternate Fridays.

If attempts to reach the examiner are unsuccessful, the examiners' supervisor, Forester W. Isen, can be reached at (703) 305-4386.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.

jt
September 14, 1999


Joseph Thomas
Primary Examiner
Art Unit 2747